

Title (en)
ELECTRIC SUPERCHARGER USING WASTE HEAT FROM INTERNAL COMBUSTION ENGINE AND POWER SUPPLY METHOD THEREOF

Title (de)
ELEKTRISCHER LADER UNTER VERWENDUNG VON ABWÄRME AUS EINEM VERBRENNUNGSMOTOR UND STROMVERSORGUNGSVERFAHREN DAFÜR

Title (fr)
COMPRESSEUR ÉLECTRIQUE SE SERVANT DE LA CHALEUR PERDUE PROVENANT D'UN MOTEUR À COMBUSTION INTERNE ET PROCÉDÉ D'ALIMENTATION DE CELUI-CI

Publication
EP 2799687 A1 20141105 (EN)

Application
EP 12861873 A 20121029

Priority
• JP 2011285466 A 20111227
• JP 2012077879 W 20121029

Abstract (en)
An object is to improve fuel consumption, drivability and exhaust gas purification by efficiently converting waste heat of the engine into electrical power and storing the electrical power in a dedicated electric storage so that the boost pressure from the electric air compressor can be flexibly outputted. The electric supercharging device includes a steam cycle device 2 configured to expand the steam generated by waste heat of an engine 1 to rotate an expander 25, a first generator 5 connected to the expander 25 and configured to generate an electrical power by torque of the expander 25, a dedicated battery 8 which stores the electrical power generated by the first generator 5, and an electric supercharger 9 configured to drive a compressor 11 with a motor 14 driven by the electrical power of the dedicated battery 9 to generate compressed air.

IPC 8 full level
F01K 23/10 (2006.01); **F01N 5/02** (2006.01); **F02B 33/34** (2006.01); **F02B 37/00** (2006.01); **F02B 37/04** (2006.01); **F02B 37/10** (2006.01); **F02B 37/16** (2006.01); **F02B 37/18** (2006.01); **F02B 39/10** (2006.01); **F02B 41/10** (2006.01); **F02D 23/00** (2006.01); **F02D 23/02** (2006.01); **F02D 29/06** (2006.01); **F02G 5/02** (2006.01); **F02G 5/04** (2006.01)

CPC (source: EP US)
F01K 13/02 (2013.01 - US); **F01K 23/065** (2013.01 - EP US); **F01K 23/10** (2013.01 - US); **F01K 25/08** (2013.01 - EP US); **F01K 25/10** (2013.01 - US); **F01N 5/02** (2013.01 - US); **F01N 5/025** (2013.01 - EP US); **F02B 37/00** (2013.01 - EP US); **F02B 37/04** (2013.01 - EP US); **F02B 37/16** (2013.01 - EP US); **F02B 37/18** (2013.01 - EP US); **F02B 39/10** (2013.01 - EP US); **F02B 41/10** (2013.01 - EP US); **F02C 6/18** (2013.01 - US); **F02D 23/00** (2013.01 - EP US); **F02G 5/02** (2013.01 - EP US); **Y02E 20/14** (2013.01 - US); **Y02E 20/16** (2013.01 - US); **Y02T 10/12** (2013.01 - EP US)

Cited by
CN108397278A; EP3390799A4; WO2017106330A3

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